

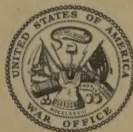
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DEPARTMENT OF THE ARMY TECHNICAL MANUAL

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OPERATOR AND
ORGANIZATIONAL MAINTENANCE MANUAL
RECEIVER, RADIO R-1547/FSQ-75(V)



HEADQUARTERS, DEPARTMENT OF THE ARMY

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WARNING

DEATH or SERIOUS INJURY may result from hazards in this equipment unless proper safety measures are observed when operating and maintaining the equipment. Be careful when working on the 115-volt ac power supply circuits, or the B+ supply voltage of approximately 250v dc throughout the receiver.

Operator and Organizational Maintenance Manual

RECEIVER, RADIO R-1547/FSQ-75(V)

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CHAPTER 1
INTRODUCTION

RECEIVER, RADIO R-1547/FSQ 75(V)

RECEIVER, RADIO R-1547/FSQ 75(V)

1-1 Use of Term "Radio"

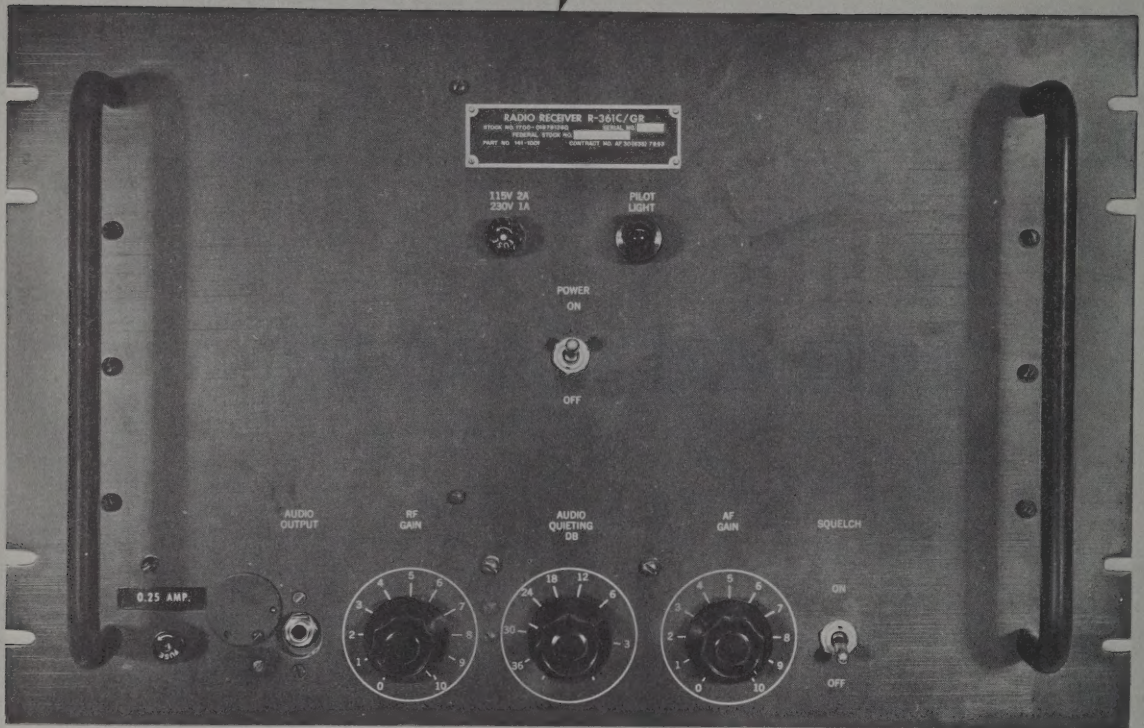
The term "radio" as used in this manual is defined as any device which is capable of receiving and transmitting radio energy. This includes the radio receiver, the radio transmitter, and the radio relay station.

1-2 Purpose and Use

The purpose of this manual is to provide the user with the information necessary to operate the radio receiver, the radio transmitter, and the radio relay station. This manual is intended for use by the user of the radio receiver, the radio transmitter, and the radio relay station.

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R-1547/FSQ-75(V)



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Figure 1-1. Receiver, Radio R-1547/FSQ-75(V).

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual describes Receiver, Radio R-1547/FSQ-75(V) (fig. 1-1) and includes its installation, operating instructions, organizational maintenance instructions, shipment, limited storage, and demolition to prevent enemy use. The manual contains instructions for operation under usual and unusual conditions, cleaning and inspecting equipment, and replacement of parts available to operator and organizational maintenance personnel.

b. Three appendixes are included in this manual—

- (1) Appendix A—References.
- (2) Appendix B—Basic issue items.
- (3) Appendix C—Maintenance allocation.

1-2. Indexes of Publications

a. *DA Pam 310-4*. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. *DA Pam 310-7*. Refer to DA Pam 310-7 to determine whether there are any modification work orders (MWO's) pertaining to the equipment. DA Pam 310-7 lists all authorized Department of the Army modification work orders, identifying the type, model, series, and Federal stock number of the item to be modified; number, date, and classification of the MWO; category of maintenance authorized to

perform the modification; and man-hours required to apply the modification to each item.

1-3. Forms and Records

a. *Reports of Maintenance and Unsatisfactory Equipment*. Use equipment forms and records in accordance with instructions in TM 38-750.

b. *Report of Packaging and Handling Deficiencies*. Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army), NAVSUP Publication 378 (Navy), AFR 71-4 (Air Force), and MCO P4610-5 (Marine Corps).

c. *Discrepancy in Shipment Report (DISREP) (SF 361)*. Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38 (Army), NAVSUP Publication 459 (Navy), AFM 75-34 (Air Force), and MCO P4610.19 (Marine Corps).

d. *Reporting of Equipment Manual Improvements*. Reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-AD, Fort Monmouth, N.J. 07703.

Section II. DESCRIPTION AND DATA

1-4. Use of Term "Hertz"

The National Bureau of Standards has officially adopted the term Hertz (Hz) to replace cycles per second (cps). This manual uses the term Hz in lieu of cps. The chart below provides common equivalents of the unit/quantity terms and the list of abbreviations used in the manual.

1-5. Purpose and Use

a. Receiver, Radio R-1547/FSQ-75(V) is a single-channel, dual-conversion, uhf superheterodyne receiver, covering the frequency range from 225 to 399.9 MHz. The receiver is designed for single channel operation, and can be used for reception of either voice or tone-amplitude modulated signals. It is de-

Unit/quantity	Old term	Old abbr.	New term	New abbr.
Frequency.....	Cycles per second.....	cps	Hertz.....	Hz
10 ³ cycles per second.....	Kilocycles per second.....	Kc	Kilohertz.....	kHz
10 ⁶ cycles per second.....	Megacycles per second.....	Mc	Megahertz.....	MHz
10 ⁹ cycles per second.....	Gigacycles per second.....	Gc	Gigahertz.....	GHz

CHAPTER 2

INSTALLATION

Section I. SERVICE UPON RECEIPT

2-1. Site Selection

In the uhf band, line-of-sight transmission paths are of major importance as signal strength decreases rapidly over transmission paths with obstructions between the receiver and the transmitter. The most significant limiting factors of line-of-sight transmission are earth curvature and intervening obstructions.

a. Earth Curvature. Earth curvature limits the distance of a line-of-sight transmission path. To determine the maximum distance between two radio stations, with intervening terrain at sea level, use the formula:

$$D = \sqrt{2A} + \sqrt{2B}$$

where D is the distance in miles; A is the height in feet above sea level of the receiver antenna; and B is the height in feet above sea level of the transmitter antenna.

b. Intervening Obstructions. Hills, buildings, densely wooded forests or jungle areas, and similar obstructions in the line-of-sight transmission path provide a major cause of signal attenuation. Certain combinations of communication sites and intervening objects may allow satisfactory communication, but this can only be attained by complex calculation with detailed terrain maps. Satisfactory communication should always be attained with a line-of-sight transmission path. If this type path is not available between stations, the available path must first be tested to determine if the site is suitable. When possible, choose a site on a hill, away from steel bridges and buildings, powerlines or powerplants. Reception is normally better over water than over land.

2-2. Shelter Requirements

The receiver is slotted for mounting in a standard 19-inch equipment rack. Location depends on the existing tactical situation and such factors as the type of shelter available, support equipment to be used, and the surrounding terrain. The following general requirements must be complied with, regardless of the situation, for optimum performance.

a. The receiver must be level and free from vibration.

b. Sufficient space must be allocated at the front and rear of the receiver to permit access to interconnecting cables and operating controls.

c. Adequate lighting should be provided so that all panel designations and controls are clearly visible.

d. The receiver must be protected from severe weather elements such as rain and blowing dust or sand.

2-3. Packaging Data

a. The receiver, a spare parts kit and applicable technical manuals are shipped in one container (fig. 2-1). The container is 26½ x 22 x 15 inches making up 5.1 cubic feet. Unit weight is 74 pounds. The receiver is shipped with all pluck-out items (with the exception of crystal Y501) installed.

b. Specific data for receiver fuses is provided below.

Panel designation	Fuse	Fuse rating	
		Amperes	Volts
115V 2A, 230V 1A-----	F301	2 or 1	115 230
0.25 AMP-----	F302	0.25	500

2-4. Unpacking Instructions (fig. 2-1)

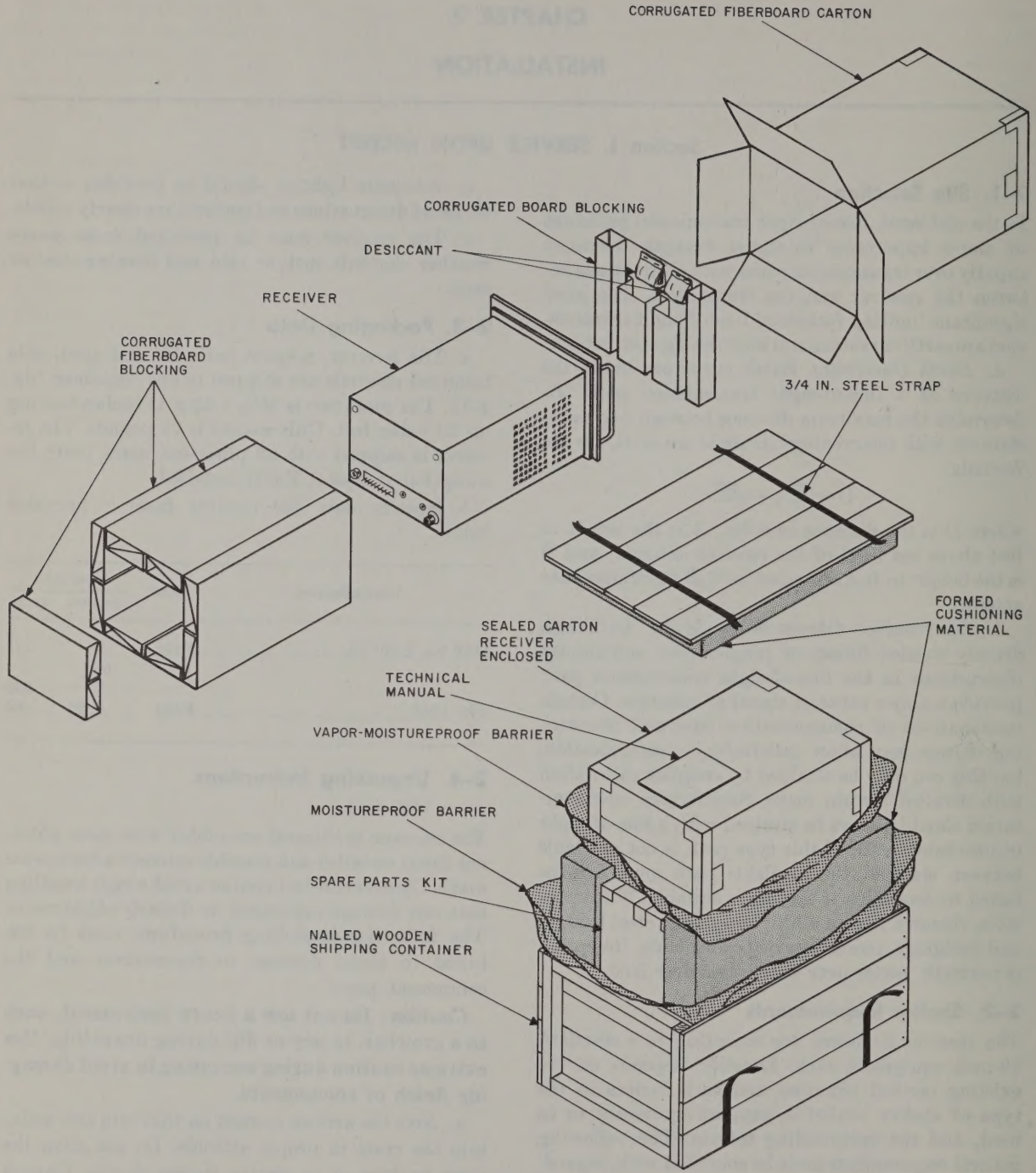
The receiver is shipped assembled with most pluck-out items installed and possible internal adjustments made. Care should be taken to avoid rough handling that can damage equipment or disturb adjustments. The following unpacking procedures must be followed to avoid damage to the receiver and the component parts.

Caution: Do not use a heavy instrument, such as a crowbar, to pry or dig during uncrating. Use extreme caution during uncrating to avoid damaging finish or components.

a. Note the arrows marked on the crate and maintain the crate in proper attitude. Do not allow the crate to drop or to receive violent shocks. Unpack the crate near the point of installation.

b. When the crate has been properly positioned, cut the metal shipping straps.

c. Remove the top of the crate by removing the nails with a nailpuller.



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Figure 2-1. Packing details.

d. Carefully remove shipping support blocks or dunnage. Exercise care to avoid damaging the receiver case.

e. Remove the technical manual package, dessicant, and spare parts list.

f. Remove the case assembly from the crate.

2-5. Checking Unpacked Equipment

a. Inspect the equipment for damage that may have occurred during shipment. If the equipment has been damaged, fill out and forward DD Form 6 (para 1-3b).

b. Check to see that the equipment is complete as listed on the packing ship. Report all discrepancies in accordance with TM 38-750. The equipment should be placed in service even though a minor assembly or

part that does not affect proper functioning is missing.

c. Check to see whether the equipment has been modified. If the equipment has been modified, the MWO number will appear on the front panel, near the nomenclature plate. Check also to see whether all MWO's current at the time the equipment is placed in use have been applied.

Note. Current MWO's applicable to the equipment are listed in DA Pam 310-7.

d. Check the latest issue of DA Pam 310-4 and its latest changes to see whether you have the latest editions of all applicable maintenance literature. (Equipment issued by depots may have been in stock for some time and may contain superseded manuals.)

Section II. INSTALLATION INSTRUCTIONS

2-6. Tools, Test Equipment, and Materials Required for Installation

Tools and test equipment required for installation of the receiver are listed below. A headset, type CW-49507 or equivalent, is necessary for post-installation checkout of the receiver.

Item	Purpose	Applicable publication
Multimeter AN/URM-105.	Measure voltage and check continuity.	TM 11-6625-203-12
Toolkit, Electronic Equipment TK-101/G.	Contains tools necessary for installation.	

2-7. Preliminary Installation Procedures

Several actions must be performed prior to rack installation and cable connection necessary for receiver operation. The procedures necessary to accomplish these actions are provided in the following paragraphs.

a. *Crystal Installation and RF Alignment.* Request direct support personnel to insert the proper crystal in XTAL OVEN A501 (fig. 3-2) required for the desired frequency. Also request direct support personnel to perform the RF alignment necessary to insure that the receiver will provide reception at the desired frequency. Refer to the station frequency plan to determine what frequency the receiver is required to receive.

b. *Line Voltage Connections and Setting of Noise Limiter Switch.* The receiver will operate from either 105 to 125 volts or 210 to 250 volts, 50 to 60 Hz line voltage. Different transformer T307 connections (fig. 2-2) are required for the different line voltages.

Terminal 1 must be jumpered to terminal 2 and terminal 3 jumpered to terminal 4 on T307 to allow the receiver to operate from a line voltage of 105 to 125 volts. If the receiver is to operate from line voltage of 210 to 250 volts, the jumpers specified above must be removed, and terminal 2 jumpered to terminal 3 on T307. A voltage-designation plate is located on the rear of the receiver dust cover to indicate the line voltage selected at T307. Perform the following procedures to check that T307 is connected properly to operate from the available line voltage.

(1) Place the receiver on a clean workbench and remove the dust cover. Press in and rotate each of the four twistlock fasteners $\frac{1}{4}$ turn counterclockwise and then pull the dust cover straight back and off of the receiver.

(2) Determine the ac line voltage that will be used to power the receiver and verify that T307 is connected as required. If the connections are not as required, change the connections as specified in a above.

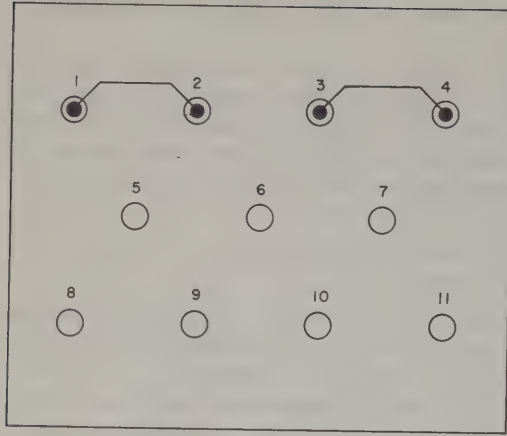
(3) Verify that the voltage-designation plate located on the rear of the dust cover agrees with the line voltage. If it is not, reverse the plate so that it does agree.

(4) Verify that the NOISE LIMITER SWITCH (fig. 3-2) is set to ON.

(5) Slide the dust cover over the receiver chassis until it fits securely against the rear of the front panel.

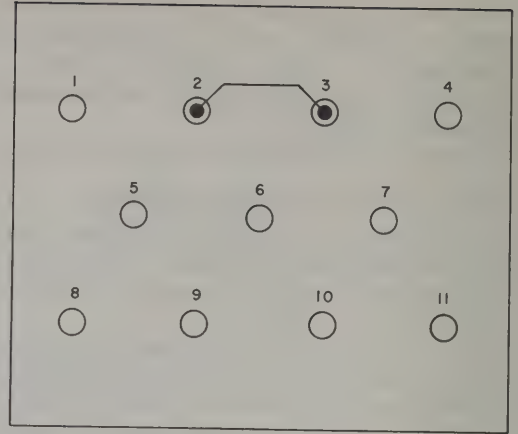
(6) Secure the dust cover in place by pressing in on each of the four twistlock fasteners and rotating them $\frac{1}{4}$ turn clockwise.

c. *Fabrication of Power Cord.* Fabricate a power cord as illustrated in B, figure 2-3, length as required for the particular installation. Connect the cable to the receiver POWER connector (fig. 1-2).



T307

A. 105-125 VOLTS AC.

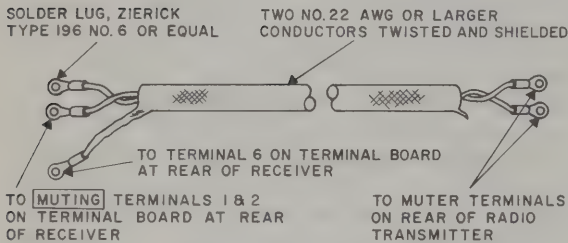


T307

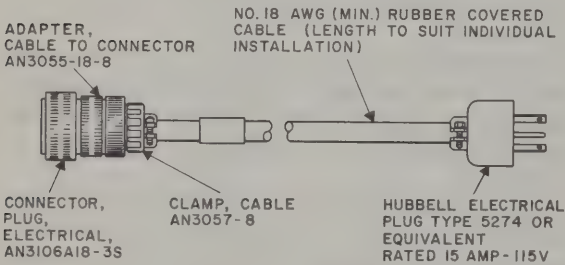
B. 210-250 VOLTS AC.

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Figure 2-2. Power transformer connections.



A. MUTING CABLE ASSEMBLY



B. POWER CABLE ASSEMBLY

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Figure 2-3. Power and muting cable fabrication.

d. Fabrication of Antenna Cable Assembly. Antenna cable assemblies will vary according to the system in which the receiver is installed. Refer to the applicable systems manual for specific fabrication instructions. A typical fabrication is illustrated in figure 2-4. This fabrication consists of affixing one UG-495/U connector to each end of the required length of RG-8A/U coaxial transmission line. This cable is for use when the receiver is connected di-

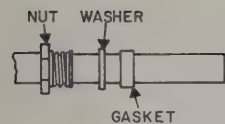
rectly to an independent uhf receiving antenna. When installing the cable, make all bends with a large radius. The RG-8A/U cable may be too stiff to make the turn required from the mounting rack to the receiver ANT. INPUT jack (fig. 1-2) in some installations. In this case, use a short length of small diameter CG-707/U coaxial cable, with the necessary connectors attached to each end of the cable, to connect the RG-8A/U cable to the ANT. INPUT jack on the rear of the receiver.

e. Fabrication of Antenna Transfer Cable Assembly. In some installations (fig. 2-6), the same antenna is used for reception and transmission of RF energy to and from a receiver and an associated transmitter. In this case, an antenna transfer cable assembly (fig. 2-5) must be fabricated to connect the ANT. INPUT jack on the receiver to a jack on the associated transmitter. When this cable is connected, the antenna is switched to the transmitter when the transmitter is operating and to the receiver when the transmitter is not operating by operation of an antenna transfer relay within the transmitter.

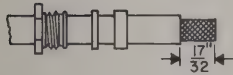
2-8. Rack Installation of Receiver

The receiver is slotted for mounting in a standard 19-inch equipment rack. It may be mounted in slide tracks in the rack so that it will slide in and out of the rack, or it may be mounted so that it rests on rack supports and is bolted in place. In either case, perform the following procedures when installing the receiver:

Caution: The receiver is heavy. Do not drop or damage during installation.



CUT END OF CABLE EVEN.
SLIDE NUT, WASHER AND
GASKET ON TO CABLE.



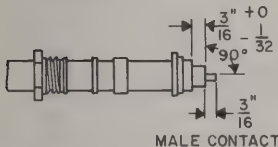
REMOVE 17/32" OF JACKET.
DO NOT NICK BRAID.



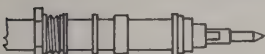
SLIDE SLEEVE OVER BRAID.
FIT SHOULDER OF SLEEVE
SQUARELY AGAINST END OF
JACKET.



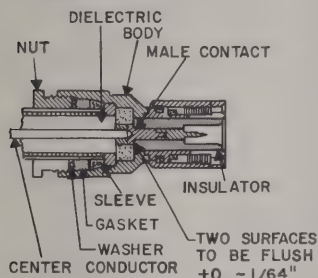
COMB OUT BRAID. FOLD BACK
SMOOTHLY AND TRIM.



REMOVE 3/16" OF DIELECTRIC.
DO NOT NICK CENTER
CONDUCTOR. TIN CENTER
CONDUCTOR USING HOT IRON
QUICKLY.



SLIP MALE CONTACT IN PLACE
AND SOLDER. USE HOT IRON
QUICKLY TO AVOID MELTING THE
DIELECTRIC. CLEAN OFF
EXCESS ROSIN AND DRESS
END OF DIELECTRIC. ADD
FUNGUS PROOF VARNISH OVER
SOLDERED CONNECTION. COAT
EXPOSED DIELECTRIC AND MALE
CONTACT WITH DOW-CORNING
DC-4 SILICONE COMPOUND.
PUSH ASSEMBLY INTO BODY
AS FAR AS IT WILL GO.
SCREW NUT INTO PLACE,
WITH WRENCH, UNTIL
MODERATELY TIGHT.
HOLDING CABLE AND BODY
SECURELY, FINISH
TIGHTENING NUT.



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Figure 2-4. Antenna cable fabrication, typical.

a. Grasp the carrying handles on the front panel of the receiver and lift to the level of the chassis supports into which the receiver is to be installed.

b. Slide the receiver into the rack until the front panel fits snugly against the rack frame.

c. Secure the front panel to the rack frame with the mounting screws supplied.

2-9. Cable Connections

The following cable connections are necessary to place the receiver in an operable condition.

a. *Antenna Cable.* Connect either the antenna cable assembly or the antenna transfer cable assembly to the ANT. INPUT jack (fig. 1-2) on the rear of the receiver. Verify that the other end of the antenna cable is connected to the desired antenna.

b. *Connections to Terminal Board TB 303.* Terminal board TB303 (fig. 1-2) may be connected in various ways depending on system requirements. Refer to the applicable systems manual to determine specific connections necessary to provide required sys-

tem operation. Typical connections (fig. 2-6) are provided in (1) and (2) below. The function of each terminal on TB303 is listed.

Terminal No.	Function
1 and 2-----	Receiver 600-ohm audio output available. May be used to connect muting cable. May also be used to operate remote speaker. Maximum power output is one watt with a 50 microvolt input.
3 and 4-----	Receiver audio output available. Provides connection for remote monitor speaker, telephone lines or other monitoring device.
5-----	Provides direct connection to center tap of audio output transformer.
6-----	Provides chassis ground connection.

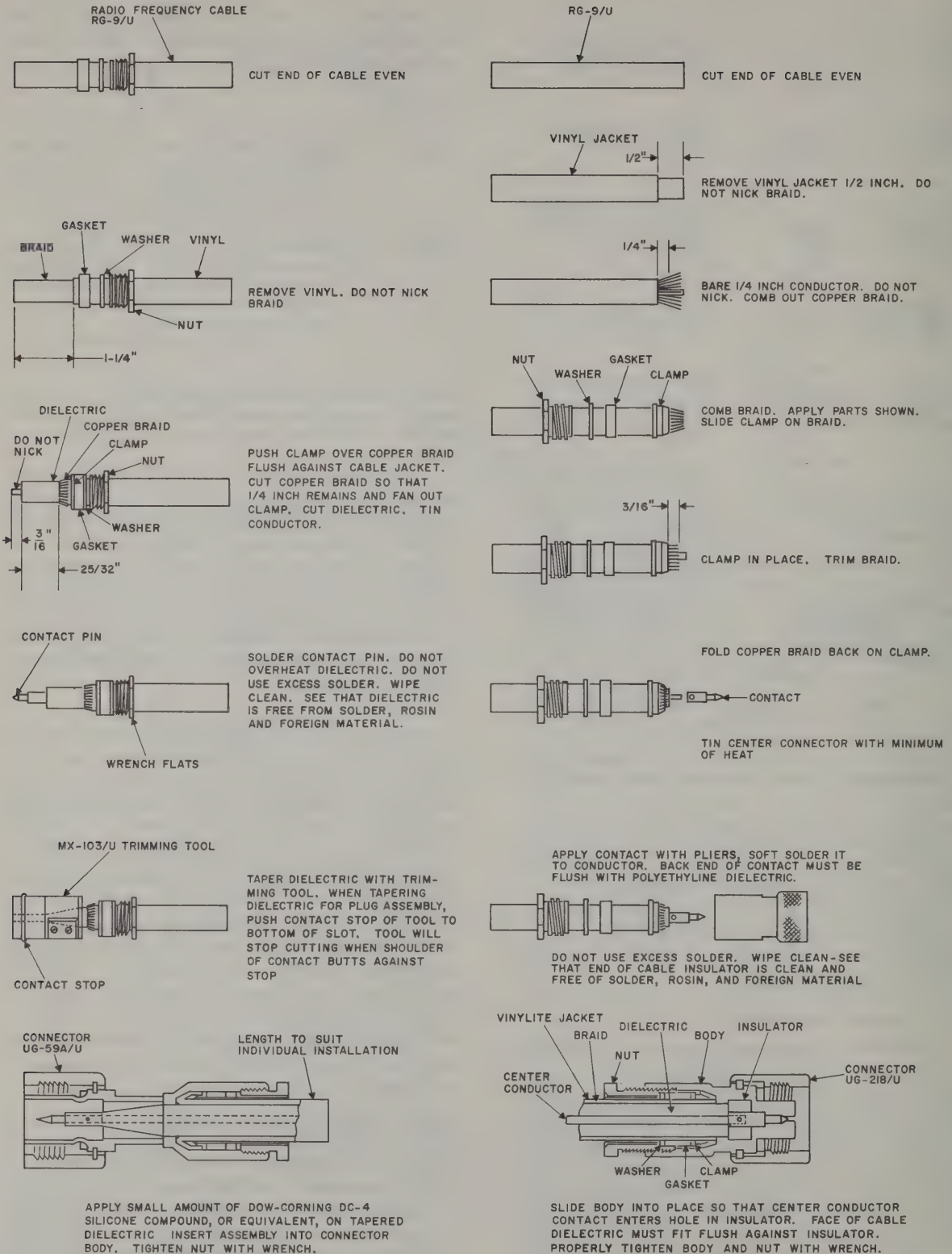
Note. If terminal 5 is connected to terminal 6, the audio output is balanced to ground. This technique may reduce crosstalk which occurs on some remote telephone lines.

(1) If the receiver is to be operated in conjunction with an associated transmitter (fig. 2-6), connect a muting cable (fig. 2-3) between terminals 1 and 2 of TB303 (shield connected to terminal 6) and the muter terminals on the associated transmitter. Connect terminals 3 and 4 to a remote monitor speaker (600-ohms impedance) or such other monitoring device that might be desired. A twisted pair of number 22 AWG cable of the required length can be used for this connection.

(2) It is also possible to use a connection from terminals 1 and 2 on TB303 to drive a remote monitor speaker and also provide receiver muting capability. This type of connection will normally be used when the receiver is used in Army air traffic control installations. For this type of installation, a twisted, shielded pair, number 22 AWG wire is connected from terminal 1 and 2 on TB303 (shield connected to terminal 6) to a remote relay controlled by a remote transmitter interlock switch. When the transmitter interlock switch is set to cause the associated transmitter to operate, the remote relay routes the audio output from terminals 1 and 2 on TB303 to a dummy load resistor which dissipates the audio signal. When the interlock switch is set to disable the associated transmitter, the remote relay routes the audio signal to a monitor speaker.

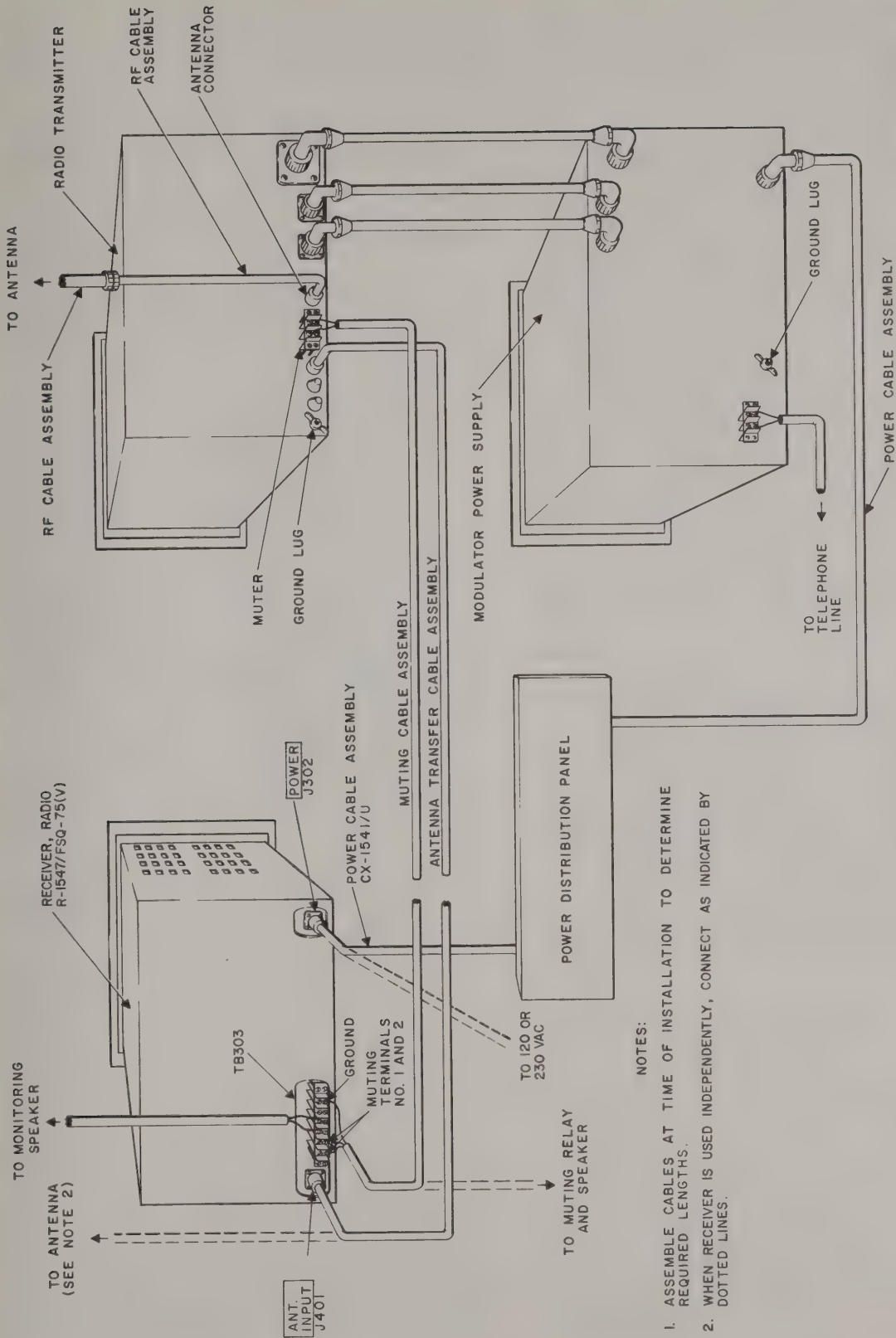
2-10. Initial Checkout of Receiver

When direct support has completed the procedures required by paragraph 2-7a, both crystals necessary for receiver operation should be installed and the first oscillator and RF sections aligned for desired channel frequency operation. The frequency assigned to the receiver should be designated on the equipment when furnished for installation. Refer equip-



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Figure 2-5. Antenna transfer cable assembly fabrication.



NOTES:

1. ASSEMBLE CABLES AT TIME OF INSTALLATION TO DETERMINE REQUIRED LENGTHS.
2. WHEN RECEIVER IS USED INDEPENDENTLY, CONNECT AS INDICATED BY DOTTED LINES.

Figure 2-6. Typical receiver installation.

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ment to higher category maintenance before installation if a change in operating frequency is desired. Because crystal Y501, the first oscillator crystal, determines the frequency of the receiver, the procedure for determining the crystal frequency is provided in *a* below. Performance of the operational test in *b* below will verify that the receiver is operational. The applicable systems manual will provide a system performance check which will insure that the receiver will perform as required for system operation.

a. Calculating Crystal Frequency. Crystal frequency is calculated using the formula: Crystal Frequency (in MHz) = $1/9$ (Channel Frequency (in MHz) - 40.4 MHz).

b. Operational Test. Subsequent to completion of all installation procedures, perform the following procedures to verify that the receiver is operational:

Note. Prior to performing the following procedures, refer to paragraph 3-1 and become familiar with the operation and function of receiver controls and indicators.

(1) Set POWER switch to OFF, RF GAIN control full clockwise, AF GAIN control to 5, SQUELCH switch to OFF, and AUDIO QUIETING DB control full clockwise.

(2) Disconnect antenna cable from ANT. INPUT jack (fig. 1-2).

(3) Connect receiver power cable to power source.

(4) Set POWER switch to ON and verify that PILOT LIGHT indicator lights.

(5) Allow 20 minutes for warmup and stabilization.

(6) Connect headset to AUDIO OUTPUT jack.

(7) Adjust AF GAIN control until a rushing sound is heard in the headset (volume set for comfortable listening level).

(8) Rotate RF GAIN control clockwise and counterclockwise. Audio level of the rushing noise should decrease when the control is rotated counter-

clockwise and increase when the control is rotated clockwise.

(9) Set RF GAIN control to original position (full clockwise).

(10) Vary AF GAIN control in both directions. Audio level of rushing sound should increase as control is turned clockwise and decrease when control is turned counterclockwise.

(11) Set AUDIO QUIETING DB control to full counterclockwise position.

(12) Set SQUELCH switch to ON. Audio noise should decrease to a very low level.

(13) If necessary, rotate the RF GAIN control in a counterclockwise direction until there is no audible noise in the headset.

(14) Rotate the AUDIO QUIETING DB control until sound is again heard.

(15) Set the AUDIO QUIETING DB control until the noise in the headset is barely audible.

(16) Set POWER switch to OFF. Do not disturb any other control settings.

(17) Connect antenna cable to ANT. INPUT jack (fig. 1-2) on the rear of the receiver.

(18) Set up coordination procedures to have the operating frequency of the receiver transmitted by an in-range transmitter. Because the receiver will normally receive transmissions from an airborne transmitter, it is recommended that the requested transmission originate from an aircraft.

(19) When the requested transmission is received, adjust the AF GAIN control for a comfortable listening level at the headset.

(20) Verify that voice transmissions are clear and free from distortion.

(21) During periods when voice transmissions are not being received, adjust the AUDIO QUIETING DB control so that noise from the headset is not objectionable.

CHAPTER 3

OPERATION

Section I. OPERATION UNDER USUAL CONDITIONS

3-1. Receiver Front Panel Controls, Indicator, and Jack

All controls and indicators necessary for normal operation of the receiver are located on the front panel of the receiver (fig. 3-1).

Control, indicator or jack	Function
POWER ON-OFF switch.	Applies ac power to receiver when set to ON.
PILOT LIGHT indicator.	Illuminates when ac power is applied to the receiver.
RF GAIN control	Adjusts RF gain of receiver.
AF GAIN control	Adjusts receiver audio output power level.
AUDIO QUIETING DB control.	When SQUELCH switch is ON, adjusts output level of squelched signals.
SQUELCH ON-OFF switch.	When switch is set to ON, amplitude of weak input signals and internal noise is decreased to prevent noise from being heard. When set to OFF, switch has no effect on receiver operation.
AUDIO OUTPUT jack.	Provides front panel headset connection.
0.25 AMP fuse	B+ line fuse to protect internal circuitry of receiver.
115V 2A 230V 1A fuse	Ac line fuse to protect input power circuit in receiver.

3-2. Preliminary Operating Procedures

Since the receiver may be operated in various system applications, operational procedures may vary slightly from installation to installation and according to the particular tactical situation. However, since the equipment is a fixed-channel receiver, the following typical operating instructions are applicable.

a. General. If the receiver is installed in a fixed installation, such as an air traffic control tower system, the receiver controls will be set for optimum system performance during installation. The receiver operator should keep a copy of these controlled settings convenient. If the receiver is installed in a fixed system, perform the preliminary operating procedures in *b* below. If the receiver is operated as a

mobile receiver in tactical situations, the receiver controls may be adjusted to various settings to provide the required reception capability. If the receiver is used in this manner, perform the preliminary operating instructions in *c* below.

b. Fixed Installation.

Note. When the SQUELCH switch is set to ON, the settings of the RF GAIN control and the AUDIO QUIETING DB control are critical. These control settings determine the carrier signal strength required to cause the receiver to provide an audio output and the power level of that audio output. If the controls are not set properly, an important signal transmission may be missed should it arrive on a weak carrier signal.

(1) Verify that the receiver controls are set as specified on the operator's checklist made up at the time of installation. Normal control settings are as follows:

- (a) RF GAIN control fully clockwise.
- (b) SQUELCH switch set to ON.

(c) AF GAIN control set as required to furnish required audio output power level. This setting may vary from system to system.

(d) AUDIO QUIETING DB control set to furnish desired quieting of squelched signals (noise) while retaining capability to receive desired signals.

(2) Plug headset into AUDIO OUTPUT jack.

c. Mobile Tactical Installation.

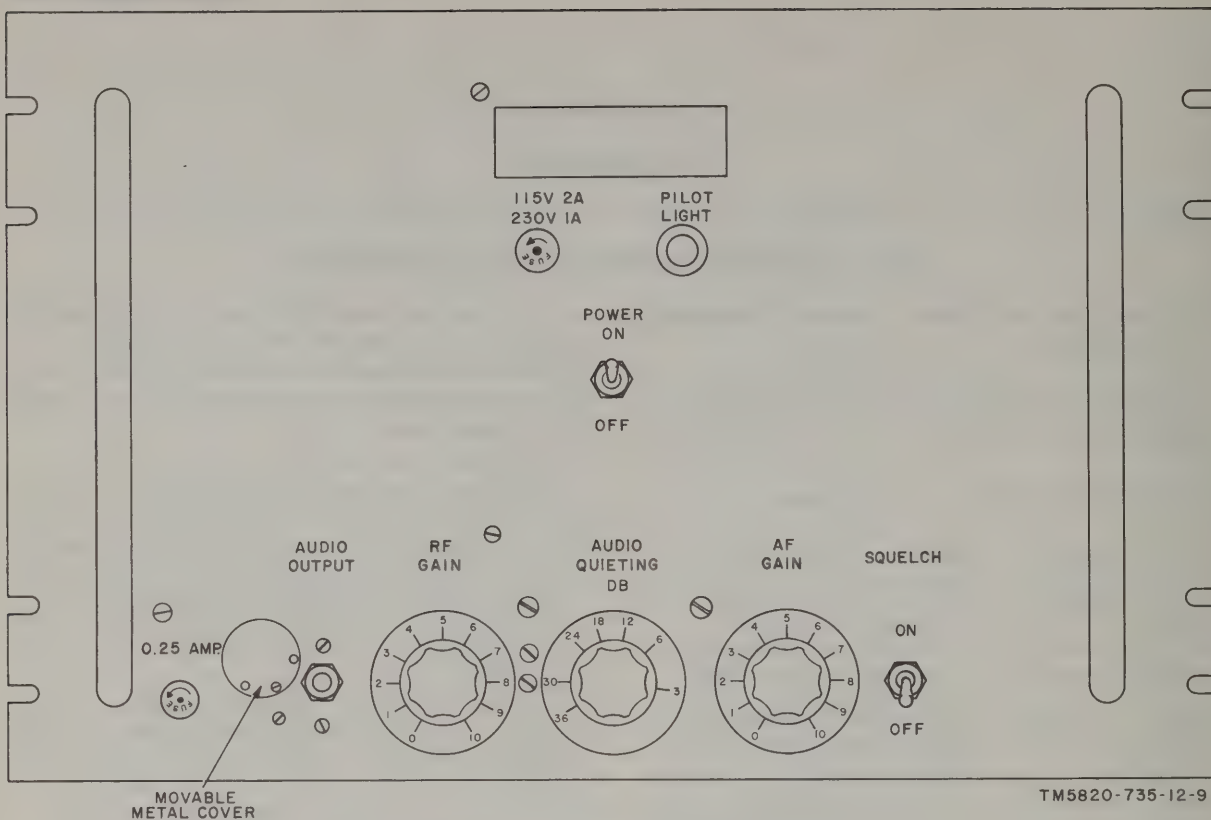
(1) Verify that antenna cable is connected to the ANT. INPUT jack (fig. 1-2) and to the proper antenna.

(2) Verify that the receiver power cable is connected between the receiver POWER connector (fig. 1-2) and the proper power source.

(3) If a monitor speaker is used with the receiver, verify that the speaker is connected across either terminals 1 and 2 or 3 and 4 on TB303 (fig. 1-2).

(4) Verify that operating controls are set as required for operation dependent on such factors as the tactical situation and RF transmission conditions.

(5) If a monitor speaker is not connected to the receiver, or is not located in close physical proximity to the equipment, plug the headset into the AUDIO OUTPUT jack.



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Figure 3-1. Front panel controls, indicator, and jack.

3-3. Fixed Installation Operation

a. Turn On. Perform the following procedures each time the receiver is turned on.

(1) Set POWER switch to ON. Do not disturb other control settings.

(2) Verify that PILOT LIGHT indicator illuminates.

(3) Allow the receiver 5 minutes for warmup.

(4) Monitor the headset output for a received signal and verify that the audio output is clear and undistorted and does not contain excessive noise.

(5) Verify that the output of any remote monitoring speakers is clear and undistorted.

b. Shutdown. If the receiver is not to be used for an extended period of time, it should be turned off to prevent excessive heating. Shutdown is accomplished by setting the POWER switch to OFF.

3-4. Mobile Tactical Operation

a. Turn On. Perform the following procedures each time the receiver is turned on.

(1) Set POWER switch to ON.

(2) Verify that PILOT LIGHT indicator illuminates.

(3) Allow the receiver 5 minutes for warmup.

(4) While receiver is warming up, set RF GAIN control to full clockwise position, AF GAIN control to midscale position, SQUELCH switch to ON and AUDIO QUIETING DB control to 12.

(5) Upon completion of warmup period, monitor headset or monitor speaker for a received signal. Adjust AF GAIN control for comfortable listening level.

(6) If excessive noise is present while audio signals are not being received, rotate the AUDIO QUIETING DB control counterclockwise to reduce the noise to the desired level.

(7) If possible, request transmission of signals from as distant a point as signals are expected. The transmission should be over like terrain if possible.

(8) If an intelligible signal is not received when the signal specified in (7) above is transmitted, adjust the AUDIO QUIETING DB control and attempt to establish a control setting that will furnish an intelligible audio output with the least amount of noise. If an intelligible output is not obtained, set the AUDIO QUIETING DB control to full clockwise position and set the SQUELCH switch to OFF.

when is it not to be used for an extended period of time. Shutdown is accomplished by setting the POWER switch to OFF.



Figure 3-2. Interior chassis markings.

Section II. OPERATION UNDER UNUSUAL CONDITIONS

3-5. General

The receiver is designed for operation within a shelter that provides at least partial protection from extremes of temperature, humidity, and dust. Operation under adverse conditions may cause damage to electrical components and crystals. Paragraphs 3-6, 3-7, and 3-8 provide operating instructions that may minimize adverse effects of temperature and humidity extremes.

3-6. Operation at Low Temperatures

Subzero temperature and climatic conditions associated with cold weather may affect efficient operation of the receiver.

a. Pronounced frequency drift will occur due to crystal temperature variations.

b. Extreme cold makes the unit wiring, line cord, and rubber parts stiff and brittle. Handle wires carefully to avoid breakage.

c. The receiver should be operated in a warm, dry, inclosure and protected from cold airflows. If auxiliary heating equipment is used, do not allow heated air to flow directly on either the crystal oven containing crystal Y501 or crystal Y502 (fig. 1-2). If possible, use auxiliary heating equipment provided with dust filters.

d. Even though the receiver may not be used for short periods of time, leave the receiver POWER switch at ON to take advantage of internally generated heat to prevent accumulations of frost and to prevent extremely long warmup periods necessary for stabilization of crystal frequencies.

e. If the receiver has been exposed to extreme cold and then rapidly warmed, moisture may form on panel surfaces and within unit inclosures. Dry the receiver thoroughly before operating.

3-7. Operation Under Tropical Conditions

Warm, damp climatic conditions expose the receiver to damage from moisture and fungus. Unusually high dewpoints cause condensation of moisture when equipment temperature falls below that of the surrounding air.

a. Do not cause cooled air to flow directly upon the receiver. Frequency drift may occur due to changes in crystal temperature.

b. Remove accumulations of moisture or fungus frequently with lint free cloths. When necessary, rub corroded areas lightly with fine sandpaper to remove fungus growths or corrosion.

3-8. Operation in Desert Climates

Desert environment exposes the receiver to possible damage from the effects of blowing dust and sand, and extreme heat.

a. Provide a means for keeping dust or sand from entering panel openings such as headset jacks, line plugs, and ventilation ports.

b. Clean and dust the receiver frequently. Use a vacuum cleaner to perform cleaning actions in, or near, the receiver. Do not use a broom to sweep in the receiver operating area.

3-9. Recognition and Identification of Jamming

It is likely that under real or simulated tactical conditions the receiver will be jammed by the enemy. Enemy jamming is done by transmitting a strong signal on the same frequency as that used for communication, thereby making it difficult or impossible to receive the desired signal. Unusual noises or strong interference heard on the receiver may be enemy jamming, signals from a friendly station, noise from a local source, or symptoms of a defective receiver. To determine whether or not the interference is originating in the receiver, disconnect and remove the antenna lead. If the interference continues, the receiver is defective. Enemy jamming signals may be typed as continuous wave or modulated. A jamming signal may be intended to block a single frequency. This is called spot jamming. The enemy may use one or several transmitters to jam a block or band of frequencies. This method is called barrage jamming.

a. Continuous Wave (Cw) Jamming. Cw jamming is transmitted as a steady carrier. This signal beats with another signal and produces a steady tone in the headset. Cw jamming signals may also be keyed by using a random on-and-off signal or using actual code characters keyed to the same rate or a little faster than the signal being received.

b. Modulated Jamming. Modulated jamming signals may consist of noise, laughter, singing, music, various tones, or most any unusual sound, or it may be a combination of these sounds. Various types of modulated jamming signals are explained below.

(1) *Spark.* This is one of the simplest, most effective, and most easily produced jamming signal. This type of signal sounds very rough, raspy, and sometimes like an operating electric motor with sparking brushes. It is very broad, and will interfere with a large number of communication channels.

(2) *Sweep-through.* This signal is the result of sweeping or moving a carrier back and forth across

the received frequency at a slow or rapid rate. The numerous signals of varying amplitude and frequency produce a sound like that of a low-flying airplane passing overhead. This type of jamming is effective over a broad range of frequencies. When it is varied rapidly, it is effective against all types of voice signals.

(3) *Stepped tones or bagpipes.* This signal usually consists of several separate tones. The tones are transmitted in the order of first increasing and then decreasing pitch, repeated over and over. The audible effect is like the sound of a Scottish bagpipe.

(4) *Noise.* Noise is random both in amplitude and frequency. It produces a sound similar to that heard when a receiver is not tuned to a station and the volume or gain control is turned to maximum.

(5) *Gulls.* This signal consists of a quick rise and slow fall of a variable audio frequency. The sound is similar to the cry of the sea gull.

(6) *Tone.* This signal consists of a single audio frequency of unvarying tone. It produces a steady howl in the headset. Another use of tone is to vary it slowly. This produces a howling sound of varying pitch.

3-10. Antijamming

When it is determined that the incoming signal is being jammed, the operator will notify his immediate superior officer and continue to operate the equipment. To provide maximum intelligibility of jammed signals, follow one or more of the procedures below. If these procedures do not provide sufficient signal separation for satisfactory operation, request direct

support personnel to align the receiver to operate on an alternate frequency. Perform the necessary coordination procedures before changing the channel frequency.

a. Request direct support personnel to use procedures necessary to slightly detune the receiver to one side and then the other side of the normal channel frequency. This may cause some separation of the desired signal and the jamming signal.

b. Vary the RF GAIN control. This may reduce the strength of the jamming signal enough to permit the desired signal to be heard.

c. Vary the AF GAIN control. The output level of the desired signal may be raised enough to be heard.

3-11. Emergency Operation

If receiver output should become weak due to change in component values or tube deterioration, and it is imperative that the receiver remain in operation, perform the following procedures to keep the receiver operable. These procedures are for use only when the audio output becomes so weak it is not usable, and can only be effective if the output from the RF amplification stages, the IF amplification stages, or the audio amplification stages is weak. Perform the procedures in the order indicated.

a. With the SQUELCH switch set to ON, adjust the AUDIO QUIETING DB control clockwise to obtain greater audio output power.

b. Set the AUDIO QUIETING DB control full clockwise with the SQUELCH switch to OFF.

c. Rotate the AF GAIN control clockwise until a usable audio output is available.

CHAPTER 4

ORGANIZATIONAL MAINTENANCE

Section I. GENERAL REQUIREMENTS

4-1. Scope of Organizational Maintenance

Organizational maintenance for the receiver consists of preventive maintenance (sec. II) and corrective maintenance (sec. III). Maintenance at this level is necessarily limited by tools, test equipment, and replacement parts available at this category. Replacement parts normally stocked at this level are listed in TM 11-5820-201-12P.

4-2. Tools, Test Equipment, and Materials

Warning: Cleaning compound is flammable; do not use near open flame. Prolonged breathing of cleaning compound fumes is dangerous; provide adequate ventilation during use.

a. Materials. The materials listed below, or equivalents, are required.

A vacuum cleaner that will also perform as a blower is a useful supplemental item.

Cleaning compound (FSN 7930-395-9542).

Cleaning cloths, lint free, class A.

Sandpaper, fine.

b. Tools and Test Equipment. The tools and test equipment listed below are required for organizational maintenance and are authorized by the maintenance allocation chart (app. C). In addition to the test equipment listed below, a headphone set, type CW-49507, or equivalent, is required.

Item	Purpose
Toolkit, Electronic Equipment TK-101/G.	Repair tools.
Multimeter AN/URM-105.	Measure ac and dc voltage; perform continuity tests.

Section II. PREVENTIVE MAINTENANCE

4-3. General

Preventive maintenance is the systematic care, inspection and servicing of equipment necessary to obtain the maximum possible efficient operational life. In addition, preventive maintenance prevents occurrence of malfunctions and detects incipient trouble, thus reducing or eliminating equipment downtime. Receiver preventive maintenance consists of cleaning, visual inspection, operational checks, and correction or reporting of physical or electrical defects. Preventive maintenance tasks and intervals of performance are defined in paragraphs 4-4 through 4-8.

a. Cleaning. Wipe large, flat surfaces clean with a dry, lint free cloth. Remove dust and foreign matter from electrical components by brushing with a clean, dry, soft brush. Use air from the blower assembly of a vacuum cleaner to remove dust from hard-to-reach areas. If dirt or grease remains after accomplishment of the above procedures, apply a small amount of cleaning compound (FSN 7930-395-9542) to a clean

cloth and wipe the area clean. When removing corrosion accumulation, wipe clean with cleaning compound (FSN 7930-395-9542). If necessary, rub the corroded area lightly with fine sandpaper to remove the corrosion.

b. Visual Inspection. Special emphasis should be placed on these inspections since many potential trouble areas may be detected at an early stage and repaired, reducing equipment downtime. When performing visual inspections, check for burned or frayed cable, electrical components that have obviously been overheated, and leakage from such components as electrolytic capacitors and transformers. Also, take care to note any loose connections, either connector or solder type.

c. Repainting and Refinishing. When removal of rust or corrosion results in a bare, exposed area on the equipment, repaint or refinish the area as required. Refer to SB 11-573 to determine the paint or preservative to be used. When performing this task, refer to TB SIG 364.

4-4. Organizational Daily Preventive Maintenance Checks and Services

Check and service only those items that do not disturb operations; make complete checks and services when equipment operation permits.

Sequence No.	Item	Procedures	References
1	Receiver	Wipe dirt and dust from front panel.	Para 4-3a
2	Receiver	During operation, observe that PILOT LIGHT is lit.	None
3	Receiver	During operation, connect headphone set to AUDIO OUTPUT jack on front panel. Monitor headphone output for proper quality and level. Report discrepancies such as excessive noise and hum or low output to direct support personnel for corrective action.	None

4-5. Organizational Weekly Preventive Maintenance Checks and Services

Sequence No.	Item	Procedures	References
Caution: Do not disturb control settings during cleaning procedures.			
1	Receiver	Thoroughly clean all exterior surfaces.	Para 4-3a
2	Knobs, dials, switches, external connections.	Verify that all external connections are firmly secured. Note any loose, cracked or otherwise damaged controls and indicators. Tighten any loose indicators, control knobs or connectors.	Para 4-3b
<i>Note.</i> Return all controls to original settings after completion of procedures.			
3	Control knobs and switches.	Rotate all controls through all possible settings, noting that they operate smoothly throughout complete range. Set POWER and SQUELCH switches to both ON and OFF positions. When POWER switch is set to ON, PILOT LIGHT should illuminate. Report discrepancies to direct support personnel.	None

4-6. Organizational Monthly Preventive Maintenance Checks and Services

Warning: When the dust cover is removed from equipment, voltages dangerous to life are exposed when power is applied.

Sequence No.	Item	Procedures	References
1	Receiver components	a. Remove dust cover.	a. Para 4-9a
Warning: Verify that power cord is disconnected before proceeding.			
b. Remove screws securing receiver to rack and pull receiver out as far as possible to make electrical components accessible.			
c. Thoroughly clean all electrical and mechanical components.			
2	Receiver components	a. Perform a thorough visual inspection of the entire equipment. Note any burned wiring, defective solder connections, leakage from transformers or electrolytic capacitors.	a. Para 4-3a a. Para 4-3b
b. Check terminal boards for broken lugs or signs of burning.			
c. Verify that all pluck-out items, such as tubes and crystal holders, are firmly seated in sockets.			
d. Verify that all switches, controls, and fuse and indicator holders are firmly secured to chassis.			
3	Receiver	Set POWER switch to OFF. Connect power cord to 120v ac power source. Connect antenna input connector.	None
4	Tubes	Verify that all tube filaments glow and that tubes do not emit a blue or purple glow which may indicate a gassy tube.	Para 4-7c
<i>Note.</i> Tubes are replaced by direct support personnel.			
5	Receiver	Connect headset to AUDIO OUTPUT jack. Rotate AF GAIN control. Output level should increase and decrease as control is turned clockwise and counterclockwise, respectively. Reset control to original position. Rotate RF GAIN control. Output level should increase and decrease as control is turned clockwise and counterclockwise, respectively.	None
6	Receiver	Replace dust cover, slide receiver back into rack, and secure receiver to rack with screws removed in sequence 1.	Para 4-7b

4-7. Removal and Replacement of Dust Cover and Tube Shields

a. Removal of Dust Cover. To remove the dust cover, perform the following procedures:

- (1) Set the POWER switch to OFF.
- (2) Disconnect the ac power cord from the power source.
- (3) Place identification tags on applicable cables and disconnect all cables connected to the rear of the receiver.

(4) Disengage the four twistlock fasteners that secure the dust cover to the receiver by depressing the individual fastener and rotating $\frac{1}{4}$ turn counterclockwise.

(5) Pull the dust cover straight back until it is completely removed from the receiver.

b. Replacement of Dust Cover.

(1) Align the dust cover so that it will slide over the receiver chassis.

(2) Push the dust cover straight forward until it fits snugly against the rear of the receiver front panel.

(3) Engage the four twistlock fasteners on the rear of the dust cover by depressing the individual fasteners and rotating $\frac{1}{4}$ turn clockwise.

(4) Verify that the POWER switch is set to OFF.

(5) Connect all required cables to the rear of the receiver.

c. Removal and Replacement of Tube Shields.

(1) To remove a tube shield, grasp it firmly, push straight down, and turn it counterclockwise. When shield is unlocked, pull straight up; be careful not to move tube in any direction.

(2) To replace tube shields, insert the shield over the tube, push down lightly and twist until slots on the shield fit over protrusions on chassis. Push the shield down firmly and twist it clockwise to lock it in place.

Section III. CORRECTIVE MAINTENANCE

4-8. General

Organizational corrective maintenance is generally limited to replacing defective fuses and indicators, verifying that ac power is available to the receiver, and repair of obvious loose connections.

4-9. Troubleshooting Chart

The troubleshooting chart below contains a listing of probable trouble symptoms, probable causes, and corrective actions to be accomplished to repair the receiver.

4-10. Removal and Replacement of Pilot Light and Fuses

Component removal and replacement is generally limited to fuses and indicator lamps. Follow the procedures in *a* and *b* below when replacing the items.

Warning: Verify that POWER switch is set to OFF before attempting fuse or indicator lamp replacement.

a. PILOT LIGHT Indicator.

(1) Unscrew lens cover from PILOT LAMP assembly.

(2) Push in lightly on lamp, twist counterclockwise to unlock, and withdraw bulb.

(3) Insert new lamp, push in lightly and twist clockwise to lock.

(4) Replace lens cover.

b. Fuses. Both fuses are cartridge types and the same instructions apply for replacement of each.

Note. If a fuse opens again immediately or a short time after replacement, defective circuitry exists in the receiver. Notify higher category of maintenance of the symptom.

(1) Set the receiver POWER switch to OFF.

(2) Unscrew the cap of the suspected defective fuse.

(3) The fuse will normally remain with the cap when it is removed. Remove the fuse from the cap and check visually, or use an ohmmeter to check continuity of the fuse. If the fuse is open replace it. If the removed fuse is not open return it to operation.

(4) Insert the new fuse in the cap and insert the fuse into the fuse holder. Replace the 0.25 AMP B+ line fuse (fig. 3-1) with a 500-volt .25-ampere fuse. Replace the 115V 2A 230V 1A line power fuse with a 115-volt 2-ampere fuse if the receiver is operating on 115 volts ac. Replace with a 230-volt 1-ampere fuse if the receiver is operating on 230 volts ac.

(5) Screw the fuse cap on firmly.

(6) Set the receiver POWER switch to ON and verify that the replaced fuse does not blow.

Item No.	Symptom	Probable cause	Corrective action
1	PILOT LIGHT fails to illuminate when POWER switch is set to ON or extinguishes during operation but receiver is operable.	Indicator lamp defective or loose in socket.	Check indicator lamp for proper seating; replace if necessary (para 4-10a).
2	PILOT LIGHT fails to illuminate when POWER switch is set to ON or extinguishes during operation and receiver does not operate.	<p>a. Line power fuse 115V 2A 230V 1A defective.</p> <p>b. No ac input power available to receiver.</p> <p>c. Ac power cord defective-----</p>	<p>a. Check fuse, replace if necessary (para 4-10b).</p> <p>b. Verify that power cord is connected to power source and that circuit breaker supplying power is closed.</p> <p>c. Set POWER switch to OFF. Disconnect power cord from power source and from POWER connector on rear of receiver. Check continuity of each wire in cable. Replace if defective.</p>
3	PILOT LIGHT illuminates when POWER switch is set to ON but receiver does not operate.	<p>a. 0.25 AMP B+ line fuse defective.</p> <p>b. Antenna input connector not firmly connected to ANT INPUT connector on rear of receiver.</p> <p>c. Internal circuitry defective-----</p>	<p>a. Check fuse; replace if necessary (para 4-10b).</p> <p>b. Verify connector securely connected.</p> <p>c. Refer to higher category of maintenance.</p>
4	Excessive hum in audio output----	Defective component in power supply.	Refer to higher category of maintenance.
5	Excessive noise in audio output----	<p>a. Poor antenna connection-----</p> <p>b. Defective tube in detector or audio amplifier stages.</p>	<p>a. Disconnect antenna input connector and short ANT INPUT jack (fig. 1-2) to ground. If output noise decreases, poor antenna connection exists, or antenna input cable is defective. If noise persists, cause is bad tube(s) or capacitor(s) in receiver. In either case, refer trouble to higher category of maintenance.</p> <p>b. Refer to higher category of maintenance.</p>
6	No audio output power available and both fuses good.	<p>a. Defective external cable routing output signal to external equipment (headset or speaker).</p> <p>b. No input from antenna-----</p>	<p>a. Connect headphones to AUDIO OUTPUT jack on front of receiver. If output is available, external cable, or cable connections defective. Repair or replace as necessary. If output is not available from AUDIO OUTPUT jack, internal circuitry is defective. Refer to higher category of maintenance.</p> <p>b. Refer to higher category of maintenance for determination.</p>
7	Audio output level low-----	Defective tube in detector or audio amplifier stages.	Refer to higher category of maintenance.
8	Distorted audio output-----	Defective tube or bypass capacitor in detector or audio amplifier stages.	Refer to higher category of maintenance.
9	Frequency drift-----	Defective crystal, crystal oven or component in local oscillator stage.	Refer to higher category of maintenance.

CHAPTER 5

SHIPMENT, LIMITED STORAGE, AND DEMOLITION

Section I. DISASSEMBLY AND REPACKAGING

5-1. Disassembly

When disassembling the receiver for shipment and limited storage, perform the following steps:

- a. Set the receiver POWER switch to OFF.
- b. Disconnect the power cord from the POWER connector on the rear of the receiver and from the power source.
- c. Disconnect the antenna input cable from the ANT. INPUT connector on the rear of the receiver.
- d. Disconnect all other cables from the rear of the receiver.
- e. Remove the roundhead screws that secure the receiver to the mounting rack.
- f. Grasp the handles on the front panel of the receiver and pull the receiver forward out of the rack as far as possible.
- g. Depress the release buttons on the chassis slide tracks.

Caution: The receiver is heavy. When removing it from the rack be careful not to drop it.

h. Carefully pull the receiver forward until it is clear of the mounting rack and chassis slides.

i. Set the receiver in a convenient work area and remove the chassis slide tracks from the sides of the receiver dust cover.

5-2. Repackaging

Repackaging of equipment for shipment or limited storage normally will be performed at a packaging facility or by a repackaging team. Should emergency packaging be required, select materials, if available, from those listed in SB 38-100. Package the equipment in accordance with the original packaging (fig. 2-1), so far as possible, with available materials. The dimensions of the packing case are given in paragraph 2-3a.

Section II. DEMOLITION TO PREVENT ENEMY USE

5-3. Authority for Demolition

Demolition of the equipment will be accomplished only upon order of the commander. Use the procedures outlined in paragraph 5-5 to prevent further use of the equipment.

5-4. Priorities of Destruction

When installed in a system, the technical manual covering the system will establish the order of precedence for destruction of the receiver. Within the receiver, the channel frequency crystals may be of tactical value to the enemy; therefore the crystals should be the first item of the receiver destroyed.

5-5. Methods of Destruction

Use one, or a combination of any of the following methods, to destroy the equipment and spare parts.

a. *Smash.* Smash the controls, tubes, coils, switches, capacitors, crystals, and transformers; use sledges, axes, handaxes, pickaxes, hammers, or crowbars.

b. *Cut.* Cut interunit cabling and break connector pins and contacts.

c. *Burn.* Burn cables, technical manuals, and wiring. Use gasoline, kerosene, oil, flamethrowers, or incendiary grenades.

d. *Bend.* Bend panels and chassis.

e. *Dispose.* Bury or scatter the destroyed parts in slit trenches, foxholes, or throw them into streams.

APPENDIX A

REFERENCES

The following publications contain information applicable to the operation and maintenance of Receiver, Radio R-1547/FSQ-75(V).

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8, and 9), Supply Bulletins, and Lubrication Orders
DA Pam 310-7	U.S. Army Equipment Index of Modification Work Orders
SB 11-244	Stockage of Signal Items for Use as Maintenance Float (Exchange)
SB 11-573	Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment
SB 38-100	Preservation, Packaging, and Packing Materials, Supplies, and Equipment Used by the Army
TB SIG 364	Field Instructions for Painting and Preserving Electronics Command Equipment
TM 9-213	Painting Instructions for Field Use
TM 11-5895-590-10	Operator's Manual for Air Traffic Control Communications Sets AN/FSQ-75(V)1, AN/FSQ-75(V)2, and AN/FSQ-75(V)3
TM 11-5895-590-20	Organizational Maintenance Manual for Air Traffic Control Communications Sets AN/FSQ-75(V)1, AN/FSQ-75(V)2, and AN/FSQ-75(V)3
TM 11-6625-203-12	Operator and Organizational Maintenance Manual for Multimeter AN/URM-105
TM 38-750	Army Equipment Record Procedures

APPENDIX B

BASIC ISSUE ITEMS

Section I. INTRODUCTION

B-1. Scope

This appendix lists items comprising an operable equipment and those required for installation, operation, or operator's maintenance for Receiver, Radio R-1547/FSQ-75(V).

B-2. Explanation of Columns

The following is a list of explanations of columns in section II.

a. Source, Maintenance, and Recoverability Codes (SMR) Column. Not used.

b. Federal Stock Number Column. This column indicates the Federal stock number for the item.

c. Description Column. This column includes the Federal item name and any additional description of the item which may be required. Usable on code column not used.

d. Unit of Measure Column. The unit used as a basis of measure (e.g., ea, pr, ft, yd, etc.) is given in this column.

e. Quantity Incorporated in Unit Column. The total quantity of the item used in the equipment is given in this column.

f. Quantity Furnished With Equipment Column. This column lists the quantity of the item supplied for initial operation of the equipment and/or the quantities authorized to be kept on hand by the operator for maintenance of the equipment.

(g) Illustrations Column.

(1) *Figure number (a).* The number of the illustration on which the item is shown is indicated in this column.

(2) *Item No. or reference designation (b).* Not used.

SECTION II. BASIC ISSUE ITEMS

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION Reference Number & Mfr Code USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) QTY FURN WITH EQUIP	(7) ILLUSTRATIONS	
						(a) FIG. NO.	(b) ITEM NO. OR REFERENCE DESIGNATION
	5820-055-5931	<p>RECEIVER, RADIO R-1547/FSQ-75(V). (This item is nonexpendable)</p> <p>TECHNICAL MANUAL TM 11-5820-735-12</p> <p>Requisition through pinpoint account number if assigned; otherwise through nearest Adjutant General facility.</p> <p>A quantity of one technical manual is packed with each equipment. Where a valid need exists, additional copies may be requisitioned and kept on hand.</p> <p>NO PARTS AUTHORIZED OPERATOR/CREW</p> <p>NO ACCESSORIES, TOOLS, OR TEST EQUIPMENT ARE TO BE ISSUED WITH THE EQUIPMENT</p>	ea	1	1	1-1	

APPENDIX C

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

C-1. General

This appendix provides a summary of the maintenance operations covered in the equipment literature for Receiver, Radio R-1547/FSQ-75(V). It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

C-2. Explanation of Format for Maintenance Allocation Chart

a. Group Number. Not used.

b. Component Assembly Nomenclature. This column lists the item names of component units, assemblies, subassemblies, and modules on which maintenance is authorized.

c. Maintenance Function. This column indicates the maintenance category at which performance of the specific maintenance function is authorized. Authorization to perform a function at any category also includes authorization to perform that function at higher categories. The codes used represent the various maintenance categories as follows:

Code	Maintenance category
C -----	Operator/crew
O -----	Organizational maintenance

F -----	Direct support maintenance
H -----	General support maintenance
D -----	Depot maintenance

d. Tools and Equipment. The numbers appearing in this column refer to specific tools and equipment which are identified by these numbers in section III.

e. Remarks. Self-explanatory.

C-3. Explanation of Format for Tool and Test Equipment Requirements

The columns in the tool and test equipment requirements chart are as follows:

a. Tools and Equipment. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool for the maintenance function.

b. Maintenance Category. The codes in this column indicate the maintenance category normally allocated the facility.

c. Nomenclature. This column lists tools, test and maintenance equipment required to perform the maintenance functions.

d. Federal Stock Number. This column lists the Federal stock number.

e. Tool Number. Not used.

SECTION II. MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS										TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	
	RECEIVER, RADIO R-1547/FSQ-75(V)	0	F	0	F			0	0	F	H	6,11 1 thru 5,7 thru 11 1 thru 5, 7 thru 11	

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOLS AND EQUIPMENT	MAINTENANCE CATEGORY	NOMENCLATURE	FEDERAL STOCK NUMBER	TOOL NUMBER
1	F,H,D	R-1547/FSQ-75(V) (continued)	6625-911-6368	
2	F,H,D	COUNTER, ELECTRONIC AN/USM-207	6625-669-4031	
3	F,H,D	GENERATOR, SIGNAL AN/USM-44A	6625-649-5193	
4	F,H,D	GENERATOR, SIGNAL AN/URM-25D		
5	F,H,D	METER, AUDIO OUTPUT ME-356/U		
6	F,H,D	METER, VOLT ME-26B/U	6625-646-9409	
7	0	MULTIMETER, AN/URM-105	6625-581-2036	
8	F,H,D	MULTIMETER TS-352/U	6625-242-5023	
9	F,H,D	OSCILLOSCOPE AN/USM-140	6625-987-6603	
10	F,H,D	TEST SET, TUBE TV-7D/U	6625-820-0064	
11	F,H,D	TOOL KIT TK-100/G	5180-605-0079	
12	0	TOOL KIT TK-101/G	5180-064-5178	
13	F,H,D	TOOL KIT TK-105/G	5180-610-8177	
	H,D	VARIAC CN-16/U	5950-235-2086	

By Order of the Secretary of the Army:

Official:

KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

W. C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Distribution:

Active Army:

ACSC-E (2)

CofSptS (1)

USAMB (10)

USACDCEC (10)

USACDCCEA (1)

USACDCCEA Ft Huachuca (1)

USAMC (2)

LOGCOMDS (2) except

1st LOGCOMD (10)

9th LOGCOMD (10)

8th US Army (5)

LEAD (7)

LBAD (10)

SAAD (15)

TOAD (10)

AAF (Vietnam) (5)

USARV (10)

1st Cav Div (5)

USAINTS (3)

USATECOM (2)

NG: None.

USAR: None.

For explanation of abbreviation used, see AR 320-50.



